

TS 6372  
DSC:SWT

A B S T R A C T

FORGE WELDING PROCESS

An automated method for forge welding tubulars including heating the tubular ends to be joined in a welding chamber while the heated tubular ends are maintained aligned and parallel relative to each other and at a small spacing, whereupon the heated tubular ends are pressed together while a reducing shield gas is injected into the chamber. The positions of the tubular ends are monitored by cameras which are coupled to a pyrometric and position monitoring system which automatically adjusts the position of the tubular ends relative to each other and the heat supplied to the tubular ends during the heating step until the tubular ends have reached a predetermined temperature, whereupon the tubular ends are moved towards each other along a distance which exceeds the spacing monitored between the tubular ends during the heating step with a selected extra distance, such that the tubular ends are firmly pressed against each other and the amount of external and/or internal upset of the tubular ends in the welding zone is limited to an acceptable level.